

**California State University, Chico**  
**Department of Mechanical and Mechatronic Engineering**  
**and Advanced Manufacturing**

**AMAR 160 –MANUFACTURING PROCESSES (3.0 UNITS)**  
**COURSE SYLLABUS – Fall 2023**

<b>Instructor:</b>	Corey Cole
<b>Office location:</b>	O'Connell 415
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<b>Office hours:</b>	10 am – 12 pm Monday & Wednesday
<b>Class days and times</b>	Lecture: Sec. 1: 2:00 pm - 3:50 pm Sec. 2: 4:00 pm - 5:50 pm Labs: Sec. 3: Monday 8:00 am - 10:50 am, Sec. 4: Tuesday 2:00 pm - 4:50 pm, Sec. 5: Wednesday 2:00 pm - 4:50 pm, Sec. 6: Thursday 2:00 pm – 4:50 pm Sec. 7: Friday 2:00 pm – 4:50 pm
<b>Classroom:</b>	Lecture: Plumas Hall 201 Labs: Plumas Hall 116
<b>Prerequisites:</b>	None

### **Course Usage of Canvas**

Copies of the course syllabus and major assignments may be found on Canvas in course **2238-AMAR-160-01-3222**. You are responsible for regularly checking the online resources, which are accessed through the [Chico State Portal](#). All grading, including lab grades, will be in this one-course module.

### **Academic Integrity**

Students are expected to be familiar with the University's Academic Integrity Policy. Your commitment to learning, as evidenced by your enrollment at California State University, Chico, and the University's Academic Integrity Policy requires you to be honest in all your academic coursework. Faculty members are required to report all infractions to the Office of Student Judicial Affairs. The policy on academic integrity and other resources related to student conduct can be found on the Office of Student Judicial Affairs [website](#).

### **Use of AI Tools**

As an instructor, I recognize there are a variety of AI programs available to assist in creating text, images, audio, and video. However, I want to stress that AI programs are not a replacement for human creativity, originality, and critical thinking. During our class, we may use AI tools. You will be informed as to when, where, and how these

tools are permitted to be used. Any use outside of this permission constitutes a violation of Chico State's Integrity Policy and may result in you being reported to the Office of Students Rights and Responsibilities. Attribution for AI content will be as follows.

“The student generated this assignment in part with [enter tool used here]. Upon generating an initial draft or outline of ideas, the student reviewed, edited, and revised the work to their own liking and takes ultimate responsibility for the content of this assignment.”

## **Course Description and Goals**

This course is designed to familiarize the student with the basic concepts of manufacturing processes and their uses.

### **Course Content Learning Outcomes**

Upon successful completion of this course, students will be able to:

1. Understanding of the principles of manufacturing, materials, and processes.
2. Understand how to solve design and manufacturing problems
3. Understand how Life Cycle Analysis and the Reduce, Reuse, and Recycle principles can be integrated into manufacturing processes.
4. Understand the relationship between design and manufacturing.

### **Required Textbook**

Harik, Ramy, and Thorsten Wuest. Introduction to Advanced Manufacturing. Society of Automotive Engineers, 2020.

ebook ISBN 9780768090963 or PRINT ISBN 9780768093278

This book is available for free as an ebook through Meriam Library. Please see the instructions on Canvas. Hardcopies are available from the bookstore, Amazon, or the SAE Publishing website.

### **Optional Books – Recommended**

Machinery's Handbook, Industrial Press, 20<sup>th</sup> edition or higher (ISBN-13: 9780831127374)

### **Required Equipment:**

- Safety glasses are A MUST (One pair will be given to you in the lab.)
- 6” Stainless Steel Digital Calipers - .0005in Resolution / .0001in Accuracy ([Amazon - NEIKO 01407A Electronic Digital Caliper](#), [Harborfrieht Digital 6" Caliper](#), or equivalent) **NO PLASTIC CALIPERS!**

### **Optional equipment:**

Lab coat or apron (optional)

Powder Coating of Hoist/Winch project (\$10.00, optional)

**AMAR 395 Open lab** - All students have been enrolled in AMAR 395 - Manufacturing Laboratory Practice (1 unit Credit / no credit). These are (3) two-hour open lab sessions available to students for class-related work.

Times (TBD) will be published on the Plumas 116 Doorcard

**SAFETY:** Everyone in Plumas 114, 116, and 121 must wear eye protection and **closed-toed** shoes at all times except in the areas of Plumas 114 between the entrance door and yellow/black limit lines on the floor. No student may work in these labs without first passing the safety quiz (60%) and signing an Acknowledgement of Lab Safety Policies and Procedures.

**USE OF CELL PHONES OR HEADPHONES WILL NOT BE PERMITTED DURING THE LAB EXCEPT IN THE PLMS 116A CLASSROOM.**

**ANYONE FAILING TO COMPLY WITH ALL LAB SAFETY RULES WILL BE TOLD TO LEAVE THE LAB IMMEDIATELY, MARKED ABSENT, AND NOT ALLOWED TO RETURN TO THE LAB THAT DAY. REPEATED OFFENSES WILL RESULT IN FAILING THE COURSE.**

### **Classroom Protocol**

**ATTENDANCE:** Attendance is 10% percent of the class grade. Because true learning occurs only when the learner is an active participant in the learning process, your active participation in this class is essential and expected. Missing any lecture or lab session will be detrimental to your success and ultimately your grade in this course. Every class meeting will provide opportunities for both lecture and demonstration material to be received.

**Do not expect the instructor to provide special make-up demonstrations of missed material.**

**CLEANUP:** Laboratory cleanup is very important in this course. **Consequently, failure to properly clean up will reduce your final grade by a third of a letter grade per occurrence (for example B- to C+).** Each student will have an assigned cleanup area for which he/she is responsible. Cleanup will take place during the last 20 minutes of each lab session, so to participate in cleanup, you must be present at the end of each lab session.

**You are required to stay for the entire duration of each lecture and lab session unless dismissed by the instructor or you will be marked absent.**

**LAB MONITORS AND TEACHING ASSISTANTS:** There will be students in the labs at various times who are Lab Monitors and/or Teaching Assistants. Part of their duties is to make sure that all students are wearing safety glasses, closed-toed shoes, and any other Personal Protective Equipment (PPE) that is required for specific lab activities. They have the authority to tell students who are not following safety procedures to leave the lab immediately. They also have the authority to enforce proper cleanup procedures by all students.

### **Dropping and Adding**

You are responsible for understanding the policies and procedures about add/drops, academic renewal, etc., found in the [CSU Chico University Catalog](#). You should be aware of the new deadlines and penalties for adding and dropping classes.

### **Assignments and Grading Policy**

#### **Grading Breakdown**

Graded Task	Percent of Final Grade
Attendance	10%
Quizzes / Assignments	15%
Exams	40%
Lab Activities	35%
Total:	100%

#### **Grading Scale**

A	93.3 - 100%	B	83.3 – 86.6%	C	73.3 – 76.6%	D	60 – 66.6%
A-	90 – 93.2 %	B-	80 – 83.2%	C-	70 – 73.2%	F	0 – 59.9%
B+	86.7 – 89.9%	C+	76.7 – 79.9%	D+	66.7 – 69.9%		

**EXAMS:** There will be 2 midterms exams and 1 final exam, and can be a mixture of true/false, matching, multiple-choice, and short-answer questions. **These exams are to be completed without the use of textbooks, notes, or other materials.** If you want to do well on the exams, you will need to complete the assigned reading, quizzes, and assignments, to have a good grasp of the material presented in the course. A slight grading curve is usually applied to the exams, but in no case will this result in a student's grade being lowered. No electronic devices of any kind may be used or active during exams.

**QUIZZES:** There will be an assignment and/or a quiz (or two) given each week. Quizzes will be accessible after the lecture on Canvas and until the following Sunday night at midnight. The quiz questions will be based mostly on the lab materials, exercises, and demonstrations in the lab videos. Any of your class materials may be

*used to help you complete the quizzes, so it is a good idea to have all your materials (textbook, part drawings, notes) when you complete each quiz.*

**HOMework:** *The main homework you will have in this course is Assignments and Quizzes. If you want to do well in this course, you will need to complete all the assignments and quizzes. You should also watch the videos on Canvas that show how to complete the lab assignments.*

**LATE ASSIGNMENTS:** *Any work turned in after the due date will lose one letter grade (below the earned grade) each week past the due date. If any quizzes or exams are missed, they may not be taken later without a doctor's note.*

## **University Policies and Campus Resources**

### **Covid- 19**

*The CSU requires students to be fully vaccinated against COVID-19 unless they have an approved exemption. Policies and requirements regarding COVID-19 are subject to change under campus, local, state, and/or federal guidelines.*

*Please note that dishonesty relating to the vaccination policy and/or your failure to comply with any other COVID-19-related safety policy or mandate, including the face covering if required, may result in disciplinary action against you through the Office of Student Conduct, Rights and Responsibilities, which can include suspension or expulsion from the California State University system. Current information can be found on the university website.*

*Individuals unable to wear a face covering due to a medical condition should contact the Accessibility Resource Center by phone at (530) 898-5959 or by email at [arcdept@csuchico.edu](mailto:arcdept@csuchico.edu).*

### **What Should You Do if You are Symptomatic or Test Positive for COVID-19?**

- 1. Please stay at home if you are symptomatic or test positive.*
- 2. Call the COVID-19 hotline (530-898-2222) and follow their guidance.*
- 3. **Stay in communication with your instructor.***

### **Academic Integrity**

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### **IT Support Services**

*Computer labs for student use are located on the first and fourth floor of the Meriam Library, Room 116 and 450, Tehama Hall Room 131, and the Bell Memorial Union (BMU) basement. You can get help using your computer from IT Support Services;*

contact them through the [website](#). Additional labs may be available to students in your department or college.

### **Student Services**

Student services are designed to assist students in the development of their full academic potential and to motivate them to become self-directed learners. Students can find support for services such as skills assessment, individual or group tutorials, subject advising, learning assistance, summer academic preparation, and basic skills development. Student services information can be found on the [website](#).

### **Americans with Disabilities Act**

If you need course adaptations or accommodations because of a disability or chronic illness, or if you need to make special arrangements in case the building must be evacuated, please make an appointment with me as soon as possible, or see me during office hours. Please also contact Accessibility Resource Center (ARC) as they are the designated department responsible for approving and coordinating reasonable accommodations and services for students with disabilities. ARC will help you understand your rights and responsibilities under the Americans with Disabilities Act and provide you with further assistance with requesting and arranging accommodations.

#### **[Accessibility Resource Center](#)**

530-898-5959

Student Services Center 170

[arcdept@csuchico.edu](mailto:arcdept@csuchico.edu)

### **Student Learning Center**

The mission of the Student Learning Center (SLC) is to provide services that will assist CSU, Chico students to become independent learners. The SLC prepares and supports students in their college coursework by offering a variety of programs and resources to meet student needs. The SLC facilitates the academic transition and retention of students from high schools and community colleges by providing study strategy information, content subject tutoring, and supplemental instruction. The University Writing Center has been combined with the Student Learning Center. You can also visit the [Student Learning Center web site](#).

**This syllabus may change as needed by the instructor. If changes are necessary an updated syllabus will be posted on Canvas and announced in class.**